Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

"Rip Van Winkle." It seemed that *she* and not *he* was the martyr, and I think many children have felt the injustice to be there.

Again, Dr. Edson *hardly* suggests that a *man* may be a "nagger."

True, at the end of his article, he says, "if the wife or the husband be etc.,"—a very small possibility, evidently, in his mind.

I have known at least two wealthy homes, where through the extreme irritability of the "head" of the house, children have been sent supperless or dinnerless to bed, banished from the table (to which they had only just succeeded from the nursery) for failure to hold a soup-spoon properly, and other equally flagrant offenses. The child, overwhelmingly grieved and ashamed, had to be hushed and soothed by the mother's *tact*, while she tried to uphold the dignity of the father. What of the demand upon her physical powers! *Or, are they of no account?*

I maintain that when we women do give way to uncalled-for severity, it is usually because of our over-strained nerves. The gentleman referred to had *nothing* to think of except the care of himself—to which care, all the household contributed.

Dr. Edson knows that I speak of no *unique* cases. He knows there are seasons unavoidable, in *nearly* every woman's life, when the cumulative cares of sick and aged, and of little ones, come at once. We *cannot* escape these seasons; they are doubtless a part of God's discipline. If our earnest purpose be to get away from the dominion of any evil tendency (and the overstrained nerve of any man, I am *sure*, would as soon succumb) shall we not have from the wisest of our kind, something that looks to be alleviative, rather than consignment to mediæval tyranny and the ducking stool?

ONE OF THE NAGGERS.

THE LATEST NEWS OF MARS.

BEFORE the winter season with its fogs, snows and high winds had set in at Mount Hamilton, a long period of good observing weather was enjoyed during the summer and spring. That good weather was thoroughly utilized by four observers—Messrs. Schaeberle, Barnard, Campbell and myself—with two telescopes during the whole of the recent very favorable apposition. The earliest observations were made on the first of June and very few favorable hours, or even moments, were missed. The great number of drawings, measures and notes accumulated must still be reduced, set in order, and prepared for publication, and until this work is finished it is not desirable to announce partial conclusions. Such final results as could now be formulated can wait till they have been viewed in the light of all the observations.

One piece of work is complete in itself, however, and the results derived from it are definitive. I allude to the observations of the spectrum of Mars by Professor Campbell. The principal details of this research have already been printed in the *Publications of the Astronomical Society of the Pacific*, and it is my object to show, in the paragraphs which follow, the nature of his observations and the chief conclusions to which they lead.

The planets, Mars among them, shine chiefly by reflected sunlight. The light of the central nucleus of the sun passes out through the solar envelopes, and illuminates the planet. If the planet has an atmosphere, a portion of the sunlight is reflected from the outer portions of this atmosphere; another portion penetrates the atmosphere of the planet and is reflected from its surface. To reach the earth the reflected light must again traverse the atmosphere of Mars (if so be it has one), must traverse the atmosphere of the earth, the telescope, the spectroscope and finally reach the eye. The original light from the central parts of the sun must then traverse the atmosphere of the sun once, the atmosphere of Mars twice and the atmosphere of the earth once. The light from the highly heated interior of the sun has a continuous spectrum; *i. e.*, an uninterrupted rainbow ribbon. The outer layers of the sun are composed of metallic vapors. After the sun's light has traversed these layers the resulting solar spectrum is no longer perfectly continuous, but is crossed by numerous dark lines fixed in position. These lines are produced by the absorption of particular waves of light by the outlying vapors. This is the kind of solar light which passes throughout the whole solar system, and which impinges on and is reflected by the planets and moon. The position of every one of the thousands of dark lines in the solar spectrum is known from accurate maps, made by Rowland and others. When the solar light passes directly through our own atmosphere (not reflected from any planet), it is modified by the gases contained in it, by oxygen, by aqueous vapor, etc. Each of these gases absorbs particular waves, and produces special dark bands in the original spectrum. The deeper the layer of our atmosphere traversed, the greater the corresponding absorption.

By observing the solar spectrum as seen by us when the sun is very high (that is, when its rays traverse a relatively thin layer of our air), and the same spectrum when the sun is low (near sunset, when its rays traverse a relatively deep layer), it is possible to construct two maps. The first map (high sun), shows the spectrum comparatively unaffected by the earth's atmosphere. The second (low sun), on the other hand, exhibits the solar spectrum much modified by the aqueous vapor of the earth's atmosphere. Admirable maps of this sort have been constructed by M. Thollon, of the Nice Observatory, and the modifications introduced by the earth's atmosphere are well understood.

Now, if the solar spectrum is observed, not directly, but after it has passed (twice) through the atmosphere of Mars, it will be correspondingly modified by this atmosphere. Whatever lines, not solar and not terrestrial, there may be, will be due to the modifications imposed by the atmosphere of the planet. If Mars has no atmosphere the observed (planetary) spectrum will be the combined solar and terrestrial spectra ; it will consist of the sun's light modified by the solar and terrestrial atmospheres only.

We actually have an example of such a combined spectrum readily available in the spectrum of the Moon. The Moon has no atmosphere, or, at all events, an indefinitely thin atmosphere. If, then, we compare the spectrum of *Mars* and the Moon (under proper conditions as to altitude, etc.), and if we find them unlike, the unlikeness is due to the absorption of a Martian atmosphere. If, on the other hand, we find them like, then Mars has no atmosphere ; just as the Moon has none.

Such is the principle of the method which Professor Campbell has carried out at the Lick Observatory, during the past summer, taking every precaution to exclude all sources of error. He was unable to detect any difference between the spectrum of Mars and that of the Moon under like conditions. That is, Mars has no more atmosphere than the Moon, so far as this method is sufficient to detect one. There is no more evidence of aqueous vapor in the atmosphere of Mars than in the no-atmosphere of the Moon. The method employed is delicate, but it is not perfectly and absolutely so. An atmosphere one-fourth as extensive as our own would certainly have been detected, and, very probably, an atmosphere much less extensive than this. The atmosphere of Mars, if indeed it has any at all, must be at least as thin as, probably very much thinner than, that of the highest peaks of the Himalayas.

There does not appear to be any escape from this conclusion. Whatever our other observations of a different nature may be, they must be interpreted to agree with this fundamental result. We see, already, that some of them do so (notably the observation of bright "prominences," *i. e.*, mountains, at the terminator of Mars). It is very difficult, on the other hand, to reconcile some others with these spectroscopic results. For that reason I prefer to wait until all our observations have been collected and discussed before promising any further opinion. But this much may now be announced as a definitive result from Professor Campbell's spectroscopic observations alone; there is no more evidence of aqueous vapor or of an atmosphere on Mars than there is on the Moon. And it is in the highest degree unlikely that Mars has an atmosphere anything like as dense as the earth's atmosphere at the summit of the Himalayas.

My object in writing this note is already attained, since the scientific results of observation—the only really important things—have been stated. Perhaps I may be forgiven if I go a step further and point out that the lakes, oceans, canals (of water), the snowstorms, inundations, inhabitants (like ourselves) and the signals they were making us, etc., etc., etc., have all vanished with the aqueous vapor. We have heard so persistently of these beings for so long, that people in general were beginning to accept them as proved. In 1890 I pointed out, on various occasions, that we did not then know which of the markings on Mars—the dark or the red—were land and which were water. In 1892 Professor Schaeberle showed that there were some very good reasons for reversing the ordinary belief on these points. In 1894 Professor Campbell has demonstrated that it is in the highest degree improbable that any considerable bodies of water exist on Mars at all. It is very unsatisfying, no doubt, not to be able to answer many questions which an eager mind can put regarding the planets, their constitution, their habitability, etc. But it is most satisfactory to have this year taken the very important step of clearing the way for such solutions by sweeping out of sight the fabric of assumptions and ungrounded assertions which has lately barred the path.

EDWARD S. HOLDEN.

MORALITY IN COLLEGE ATHLETICS.

PUBLIC interest in games and field sports seems to become keener every year, and is likely to grow for a long time to come, for the area of those who either personally take part in these contests, or who throng them as spectators, is continually increasing.

The importance attached to games may indeed be said to be a test, it is certainly an accompaniment, of civilization. The Olympian games did not become of real importance as games, apart from their importance as a religious ceremony, till the more brilliant periods of Greek life, and the triumph of Alcibiades in the chariot race, was a fit emblem of the supremacy of Athens, in the world of politics, literature, and art. Even the tournaments of the Middle Ages were not a recognized institution, until Chivalry